Purchasing Indicators Flatten in November

The Arizona economy was flat in November, as both inventory levels and employment dropped. New orders received increased, but only slightly. Production and purchase commitments also advanced, but at moderate rates. It was not a distinguished economic performance.

The economy has not been able to shift out of second gear. While activity has increased overall in 1986, the economy has been sluggish, and it is unlikely that the tempo will pick up appreciably during the first quarter of 1987. One benefit is that the moderate growth performance seems to be keeping the lid on a resumption of severe inflationary pressures.

Table 1 presents the results of the November survey of Arizona purchasing managers. Analysis of these results follows.

PRICES

Prices paid for purchased items accelerated in November at approximately the same rate as in October. The past year has seen consistent, controlled price increases in each month, a major factor permitting the expansion to continue for four years.

DELIVERY TIME

Delivery time on shipments from vendors stretched in November at the greatest rate since May, signaling that suppliers' operating levels are increasing.

INVENTORY LEVELS

Inventory levels of purchased materials experienced its largest drop since May 1985. Levels have been essentially stable in 1986, with about an equal number of months of small increases and decreases. The November decrease is disappointing, since it indicates that Arizona firms are concerned about future business activity and may be "battening down the hatches," which could become a self-fulfilling prophecy.

NEW ORDERS

New orders booked by Arizona firms grew only slightly, after jumping in September and October. This was the smallest gain in almost four years (since December 1982), when the current recovery began, and shows that incoming business is in the doldrums.

PRODUCTION

Production increased at a somewhat lower rate than in each of the previous three months. If the slow growth in new orders continues, further hikes in production will be at very moderate rates, or production may actually decline.

EMPLOYMENT

Employment decreased slightly in November – only the second decline of 1986. This weak performance indicates an economy that is downshifting to almost a no-growth pace.

PURCHASES

Purchases of materials and supplies advanced again in November, but at half October's rate. With the new order and production rates flattening out, the need for additional purchases is diminished.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

Arizona Purchasing Survey

Now in its 25th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
NOVEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (November compared to October)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	23	72	5
Delivery time from vendors	24	71	5
Purchased materials inventory level	23	45	32
New orders received	30	42	28
Production	30	52	18
Employment	14	71	15
Purchases	34	38	28

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona

Arizona Leading Index Registers Moderate Gain in October

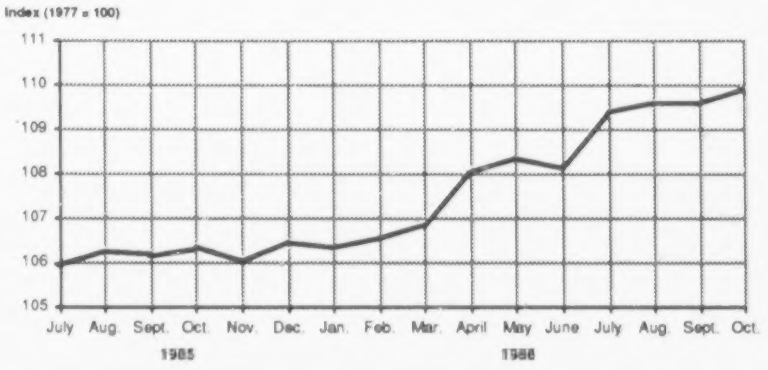
The Arizona Index of Leading Economic Indicators rose 0.3 percent in October to an index value of 109.9 (see Figure I). Gains in the index have slowed since August, after rapid advances during the spring and early summer.

The index, however, still is rising, in contrast to the situation during 1984-85, when it fell in 11 of 24 months. During the nine months ending in October, the index increased 3.3 percent, more than during any nine-month period since that ending in November 1983.

Seven index components rose in October, a figure exceeded only once since 1983. The national money supply (M2) led the way (see Table 1). The net increase in the indicators derived from a survey of Arizona purchasing managers also pushed the index up, with advances in the delivery time, inventory level and employment components. Each offset a decline in September. Reversing direction from the large declines in August and September, the change in sensitive materials prices component rose more than in any month since early 1983.

Residential building permits fell sharply in October, the major negative influence on the index. Despite the largest monthly drop since 1982, this component remained higher than it was prior to spring 1986. Since this indicator tends to fluctuate widely from month to month, the decline probably is of no significance.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Center for Business Research, College of Business, Arizona State University

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution†			
	July	*Aug.*	*Sept.*	*Oct.*
Delivery Time*	.04	-.02	-.02	.07
Inventory Levels*	.01	.04	-.04	.06
New Orders*	.04	-.04	.09	-.05
Production*	.07	.04	.00	.01
Employment*	.03	.00	-.11	.07
Residential Building Permits	.27r	-.07r	.16r	-.34
Unemployment Insurance Claims	.01	.12	-.12	-.05
Average Workweek, Manufacturing	.05	-.05	.00	.05
Money Supply	.47	.34r	.12r	.34
Change in Sensitive Materials Prices	.06	-.16	-.09	.16
OVERALL INDEX	1.05r	.21r	.00r	.32

rRevised

†The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Center for Business Research, College of Business, Arizona State University.

OUTLOOK

Despite the increasing age of the expansion (October was the 51st month), the chance of a recession beginning during the next several months remains a slight 1 percent. Ongoing gains in the index signal that the Arizona economy should continue its healthy growth.

Additional modest gains in the index seem likely. Residential building permits probably will increase in November and December due to the low value in October and to further declines in mortgage interest rates. October's small rise in sensitive materials prices did not completely offset earlier declines, making another advance probable. Though a more moderate growth rate than last spring's is likely, the national money supply probably will expand again. The net change in indicators derived from a survey of purchasing managers, however, was negative in November, due to sharp declines in the inventory levels and new orders components.

– **Tom R. Rex**
Research Manager

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	51.629	1.5	9.9	NA	NA
Arizona - 1982 Dollars	2nd Qtr.	48.084	1.8	9.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	193.7	0.6	1.2	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Oct.	109.9	0.3	3.3	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	Sept.	325,412	5	0	3,130,621	-2
Pima County	Sept.	51,809	-9	-5	640,028	3
Balance of State	Sept.	65,943	20	-3	486,751	-8
Arizona	Sept.	443,164	5	-1	4,257,400	-2
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Sept.	4,189	26	8	37,548	-10
Pima County	Sept.	811	4	-17	9,174	-7
Balance of State	Sept.	1,134	36	-15	9,328	-29
Arizona	Sept.	6,134	24	-1	56,050	-14
HOME SALES						
Maricopa County - Number	Oct.	4,559	-40	-23	52,353	11
Maricopa County - Median Price	Oct.	78,775	-1.5	5.2	77,950	5.9
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	3rd Qtr.	95	0.0	14.5	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Qtr.	106	-1.9	10.4	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	Nov.	9.6	-3.0	-17.2	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	3rd Qtr.	1,922	1.1	4.6	NA	NA
Arizona	3rd Qtr.	3,362	0.9	3.9	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	Oct.	2,606	-14.8	0.8	30,614	1.1

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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John Kraft, Dean
Lee R. McPheters, Center Director
Mary Wory Garcia, Editor
James Dodson, Editorial Assistant
Sandra Palais, Computer Specialist

SkI Acquisitions
Congressional Info Service
4520 East-West Highway
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Survey of Readers: Migration

60% Might Leave Arizona; Quality of Life Key Factor

Nearly 60 percent of respondents to an *Arizona Business* reader survey would consider moving from Arizona. Quality-of-life considerations would be an unusually significant factor in their decision-making process.

Little information is available concerning why people migrate to Arizona. Even less is known about why people migrate from the state, though in a typical year two people leave for every three who migrate to Arizona. To gather more information on these topics, the Center for Business Research conducted a survey of subscribers to *Arizona Business*.

The survey concentrated on the following issues:

- Whether the respondent had lived outside Maricopa County as an adult.
  - Their reasons for moving to the Phoenix area.
  - A history of their prior intercity moves.
- Whether the respondent would consider leaving Maricopa County.
  - Why they would leave.
  - Where they might move.

Because socioeconomic characteristics typically correlate highly with migration decisions, the survey also included several demographic questions.

DEMOGRAPHICS

Those who returned the survey are not demographically representative of the Phoenix area population. More than 75 percent of the respondents are college graduates; 50 percent earn an annual household income of more than $60,000. More than 80 percent indicated their occupation as executive, manager or professional specialty. Four of five respondents are male.

Many of the demographic characteristics were interrelated, camouflaging those that were truly related to migration decisions. For example, demographic characteristics of migrants to the Phoenix area were

See "Migration," page 2

In This Issue

6 December Purchasing Survey
7 AZ Leading Index, November
8 AZ Economic Indicators

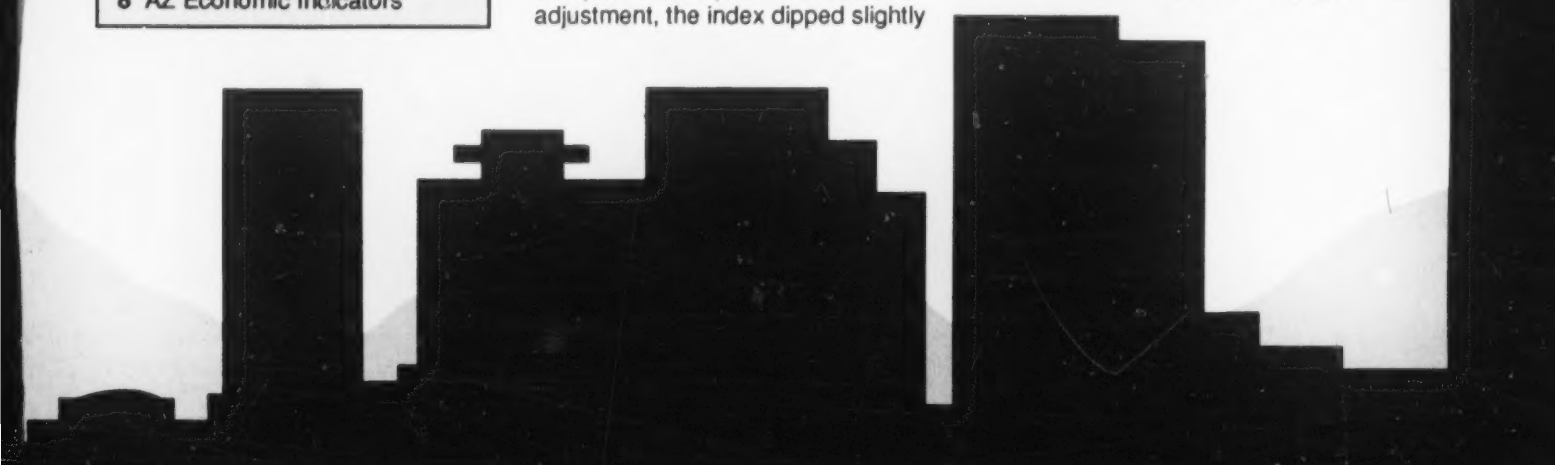
Valley Inflation Finishes Year Near 1 Percent

Inflation in the Phoenix metropolitan area remained subdued during fourth quarter 1986, the sixth consecutive quarter of little or no change in the prices of goods and services. A 0.5 percent seasonally adjusted increase was measured by the Metropolitan Phoenix Consumer Price Index (see Table 1). Before seasonal adjustment, the index dipped slightly to 193.6 (1977 = 100), only 1.1 percent higher than the index for fourth quarter 1985.

COMPONENT INDEXES

None of the major categories inordinately affected the overall index

See "CPI," page 4



ARIZONA BUSINESS

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FEBRUARY 1987

"Migration," from page 1
significantly different from those of respondents who had not lived outside the area as an adult. Thus, varying responses to migration questions were not so much a result of differences in nativity as disparities in income, occupation, education and age.

MIGRATION TO MARICOPA COUNTY

Eighty-three percent of the respondents had lived outside Maricopa County as adults. When they moved to the Phoenix area, 70 percent were married, and 45 percent brought children with them.

Reasons

The decision to move to Maricopa County was most affected by employment-related concerns. An economic motive was cited by 55 percent of the respondents as the single most significant reason, within the 50 to 60 percent range established in most migration studies.

Receiving 16 percent of the responses as the most important reason, climate was far more important in influencing migration to the Phoenix area than to most other areas of the country. With 9 percent of the replies, quality-of-life considerations, such as western lifestyle, health/air quality and outdoor recreation, was the next most popular response.

The most important reason varied by the area from which the respondent had moved. Those from the West were not as concerned with climate and quality of life, while the former was a particular concern of Midwest natives, and the latter was more frequently cited by other Easterners.

Frequent movers came here more commonly for economic reasons, while single movers more often cited other motivations. The primary reason for migrating also was related to age and occupation. Older people were more concerned with climate; respondents not in an executive or professional occupation were less concerned with economic reasons and more interested in quality of life.

A tally of all reasons for moving to the Phoenix area revealed that employment was a motivator for nearly two-thirds of all respondents. Climate, cited by more than 40 percent, and quality of life, specified by more than 20 percent, also were popular responses.

Previous Home

Forty-five percent of migrants to the Phoenix area came from another location in the West. Nearly 30 percent migrated from the Northern Plains/Great Lakes region; 16 percent moved from the Northeast, and 10 percent came from the South.

Of the 40 percent of respondents who made only one move – to Phoenix – nearly as many arrived from the Midwest as from the West. Three-or-more intercity moves had been made by 28 percent of the respondents. These frequent movers tend to have higher educational levels and incomes, matching the findings of other migration studies.

Nearly one-half of the migrants came from another large metropolitan area. Los Angeles-Orange County was most frequently named, followed by Chicago. Thirteen percent moved from other locations in Arizona, nearly one-half of these from Tucson.

Time of Move

Nearly 50 percent of respondents moved to the Valley 10-or-more years ago. Only 18 percent have lived here less than five years. Recent arrivals more frequently came from the Rocky Mountain region, less often from the Midwest. This pattern matches the swing in migration reported in the December 1986 *Arizona Business*.

TABLE 1
WILLINGNESS TO LEAVE ARIZONA

	Percent
Total Sample	59
Those Who Had Resided Outside Maricopa County as an Adult:	
Yes	61
No	52
Years Resided in Valley:	
Less than 5	73
5 to 9	66
10 or more	51
Number of Intercity Moves:	
1	54
2	60
3 or more	70
Previous Home:	
West Coast	68
Rocky Mountain	65
Midwest	57
Northeast and South	54
Age of Respondent:	
Less than 40	70
40 to 54	59
55 or older	39
Educational Attainment:	
Less than college degree	50
College graduate	54
Post-graduate work	67
Reason for Moving to Valley:	
Economic/employment	69
Quality of life	63
Climate	51
Other	67

Source: Survey of *Arizona Business* readers conducted by the Center for Business Research, College of Business, Arizona State University, December 1986.

POTENTIAL MIGRATION FROM ARIZONA

While migrants to the Phoenix area are more willing to leave Arizona than those who had not lived outside the Phoenix area as adults, more than one-half of the latter group would consider moving from Arizona. A variety of other factors also correlated significantly with willingness to leave the state (see Table 1).

Reasons

Potential motivations for leaving Arizona do not closely match the reasons given for moving to the Phoenix area (see Figure I). While both decisions still hinge most often on employment-related factors, employment was more frequently chosen

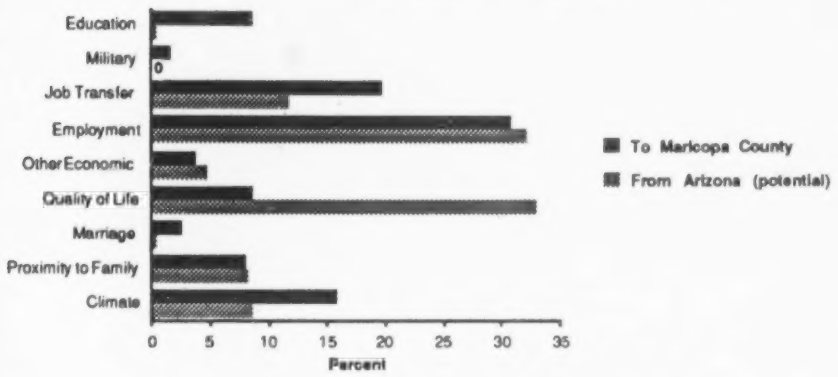
Survey Methodology

The Center for Business Research mailed surveys to 1,000 readers of *Arizona Business* during the first week of December. The survey was restricted to individuals living in Maricopa County.

Because *Arizona Business* readers are not representative of the general population of the Phoenix area, these results cannot be generalized to the entire population. However, the respondents may be representative of the local business community.

By December 23, 504 responses had been received – an excellent response rate of 50 percent. Thanks to all who participated!

FIGURE I
PRIMARY REASON FOR MIGRATION



Source: Survey of *Arizona Business* readers conducted by the Center for Business Research, College of Business, Arizona State University, December 1986.

as a reason for moving to the Phoenix area. Of potential considerations in a decision to leaveArizona, quality-of-life was surprisingly important to respondents: 33 percent marked it as the most significant potential motivation for leaving; only 9 percent had chosen it as the most important reason for migrating to Phoenix.

Quality of life has become a high priority issue in the Valley, particularly during the last couple of years. A variety of surveys conducted during 1986 revealed citizens' distress about the quality of life. The survey of *Arizona Business* readers indicates that this concern is shared by top-level executives and professionals. Further, many of them find the situation serious enough to leave the area.

Air quality was the most-cited quality-of-life concern, written in by approximately 40 percent of the respondents who checked quality of life as a potential reason for leaving Arizona. Another 25 percent commented on "too many people/too fast growth," while 20 percent of respondents identified traffic congestion in particular. Each of these three-most-named factors is at least partially controllable at the local level. Each also represents a "push" factor – migrants usually are "pulled" to another area rather than "pushed" from their home.

This concern with quality of life is not a typical finding of migration studies. In the *Arizona Business* reader survey, it was more frequently mentioned by long-time residents of the Valley. Presumably, they have been here long enough to contrast conditions today to the way they used to be. Several respondents made rather pointed comments concerning the deterioration of conditions during their residence in the Valley.

Of all reasons given for possibly moving from Arizona, employment was cited by nearly three-fourths of the respondents. Quality of life was noted by 45 percent. Climate and proximity to family each were contributing reasons for nearly one-fourth of those who would consider leaving Arizona.

Destinations

If survey respondents were to leave Arizona, more than one-half would consider living in California. Other popular responses included New Mexico, other Rocky Mountain states and other West Coast states. The West is a particularly favored destination of those who moved to Arizona from a western location and of those who cited quality of life as a potential reason for leaving the state.

Less than 20 percent of respondents indicated they only would move east of the Rocky Mountains. This group generally moved to the Phoenix area from the East and frequently mentioned proximity to family as a reason for moving.

Approximately one-third of those who might leave Arizona are highly flexible as to where they might live. This group frequently cited economic reasons for potentially leaving.

CONCLUSION

Population growth is a fact of life in Arizona, an important part of the social and economic fiber. Migration provides most of the population gains and may be the most important underlying factor affecting Arizona's economy and lifestyle.

While the geographical sources of Arizona's migrants are relatively well documented, and some information is available on migrants' demographic characteristics (see, for example, the July 1985, February 1986 and December 1986 issues of *Arizona Business*), this survey provides new information concerning reasons for migrating, particularly from Arizona.

Some of the most important survey findings include:

- People migrate to Maricopa County, as to most other locations, primarily for employment.
- The desert climate is an unusually strong "pulling" factor for those moving to Arizona.
- Nearly 60 percent of the respondents would consider moving from Arizona.
- While employment remains the most important potential reason for leaving Arizona, the quality of life is an unusually significant "pushing" factor.
- Problems of air pollution, too-rapid growth, and traffic congestion are perceived as so important that they may drive people, including high-level executives and professionals, from the Phoenix area.

– Tom R. Rex
Research Manager

TABLE 1
PERCENT CHANGES IN
METROPOLITAN PHOENIX CONSUMER PRICE INDEX

		Seasonally Adjusted from Preceding Quarter							
	Relative	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Expenditure Category	Importance	1985	1985	1985	1985	1986	1986	1986	1986
ALL ITEMS	100.0	1.8	1.3	0.3	0.8	-0.2	0.4	0.8	0.5
Food and Beverages	18.7	1.8	0.9	-0.1	2.3	0.5	1.0	2.3	0.1
Housing	39.5	1.2	0.6	1.8	-0.4	0.7	0.2	1.0	0.4
Apparel and Upkeep	4.8	1.8	3.3	-1.9	2.5	-3.3	5.6	-2.5	1.9
Transportation	21.2	2.0	2.0	-2.1	-0.8	-2.5	-1.9	-1.1	-0.2
Medical Care	6.9	2.6	2.7	1.6	1.8	1.3	1.7	0.2	1.2
Entertainment	4.6	2.9	3.5	2.1	5.3	-1.7	2.4	-0.8	4.5
Other Goods and Services	4.3	1.7	1.7	-0.2	1.2	1.7	0.7	2.1	0.8

TABLE 2
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Fourth Quarter 1986

	Index (1977=100)		Percent Change from	
	Last	This	Last	Year-Ago
Expenditure Category	Quarter	Quarter	Quarter*	Quarter
ALL ITEMS	193.7	193.6	0.5	1.1
Food and Beverages	181.1	180.2	0.1	3.7
Food	181.5	180.5	0.0	3.7
Food at Home	179.3	178.2	0.1	4.2
Cereal and Bakery Products	197.2	197.5	0.7	4.8
Meats, Poultry, Fish, and Eggs	166.5	166.9	-0.1	6.6
Dairy Products	166.4	165.7	-0.8	3.3
Fruits and Vegetables	191.3	184.1	-1.3	-3.4
Other Food at Home	170.8	170.7	1.5	6.7
Food Away from Home	182.8	182.1	-0.1	2.8
Housing	205.1	203.6	0.4	2.3
Shelter	222.5	222.1	-0.1	3.1
Renters' Costs**	120.3	119.3	-1.0	2.5
Homeowners' Costs**	111.9	112.1	0.2	3.5
Fuel and Other Utilities	173.4	168.5	3.0	0.0
Gas (piped) and Electricity	192.8	181.2	3.5	-0.9
Household Furnishings/Operations	153.5	152.3	-0.2	1.0
Apparel and Upkeep	146.8	149.8	1.9	1.2
Transportation	176.0	175.0	-0.2	-5.9
Private Transportation	172.7	171.7	-0.4	-5.9
New and Used Cars	193.3	194.8	2.3	2.4
Motor Fuels	134.1	128.8	-4.0	-32.0
Public Transportation	228.7	228.4	1.7	-6.4
Medical Care	269.7	272.2	1.2	4.2
Entertainment	194.3	206.1	4.5	4.5
Other Goods and Services	181.7	182.2	0.6	5.0

*Seasonally adjusted **Base period is second quarter 1983.

TABLE 3
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
UNITED STATES AND COMPARATIVE CITIES
Fourth Quarter 1986

	Percent Change from Last Quarter*		Percent Change from One Year Ago			
		United		United		San
Expenditure Category	Phoenix	States	Phoenix	States	Denver	Diego
ALL ITEMS	0.0	0.7	1.1	1.3	0.5	2.2
Food and Beverages	-0.5	0.6	3.7	4.2	2.5	5.2
Housing	-0.7	-0.2	2.3	1.9	0.2	3.6
Apparel and Upkeep	2.1	2.9	1.2	0.9	2.9	1.8
Transportation	-0.6	1.0	-5.9	-5.8	-5.6	-5.9
Medical Care	0.9	1.6	4.2	7.7	6.1	9.7
Entertainment	6.1	1.0	4.5	3.1	4.1	4.2
Other Goods and Services	0.2	2.5	5.0	5.8	9.3	3.8

*Not seasonally adjusted

Source (Tables 1, 2 and 3): Metropolitan Phoenix data compiled by the Center for Business Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; other data in Table 3 are from the U.S. Department of Labor, Bureau of Labor Statistics.

"CPI," from page 1

during the fourth quarter. Transportation costs fell for the sixth consecutive quarter, but by a slight amount. The entertainment category provided the largest upward impetus. Each of the other major components registered small-to-moderate gains.

Food and Beverages

The index for food and beverages barely rose during the fourth quarter, following a large gain in the third quarter. At 0.1 percent, the increase was the smallest of the last five quarters. Both the food at home and food away from home subcategories changed minimally.

Three of the five components of the food at home category declined, led by a 1.3 percent drop in the index for fruits and vegetables. This index was lower than it was one year earlier, largely because fresh fruit prices fell 20 percent during the year.

Prices of dairy products also were lower. The index for meats, poultry, fish and eggs hardly changed – a return to the pattern interrupted by a jump during the third quarter. Price increases for cereal and bakery products and for other food at home (see Table 2) offset the declines.

Housing

Housing costs rose only 0.4 percent, as shelter costs declined slightly for the first time in more than three years. Homeowners' costs increased minimally, while renters' costs fell. Apartment rents declined slightly, following a surprisingly large gain during the third quarter. High vacancy rates should continue to restrain rent increases.

Fuel and utility costs advanced, as utility gas rates failed to decline after eight consecutive quarterly reductions. Sharp rate increases went into effect in some Valley areas for water and sewerage maintenance and for trash collection.

Transportation

Because gasoline prices declined for the sixth straight quarter, transportation costs again fell, though by only 0.2 percent. Gasoline prices were 32 percent lower during fourth quarter 1986 than during fourth quarter 1985.

Most of this decrease was offset by higher new car prices, which

followed three quarters of price stability in this category. Used car prices again advanced modestly.

After six straight large increases, vehicle insurance rates did not rise. Vehicle finance charges dipped slightly; only one increase was measured during the last nine quarters. The index for public transportation climbed but stayed well below its level of one year earlier.

Medical Care

Health care inflation remained moderate for the sixth consecutive quarter, though the 1.2 percent increase represented a rebound from the 0.2 percent rate of the third quarter. Compared to fourth quarter 1985, the fourth quarter 1986 medical care index was just 4.2 percent higher: the lowest annual rate since the quarterly CPI began in 1975.

Inflation was consistent throughout the category, except for health insurance premiums, which scarcely changed. After an annual rate approachng 50 percent during 1984, inflation in this category has stabilized near 2 percent.

Other Categories

The apparel and upkeep category continued its up-and-down quarterly pattern, while the other goods and services grouping again advanced moderately. Entertainment costs jumped 4.5 percent, as prices of toys and hobbies surged after three straight quarterly declines. In addition, admission prices and fees for participant sports again shot up; the cumulative gain during the four quarters of 1986 exceeded 8 percent.

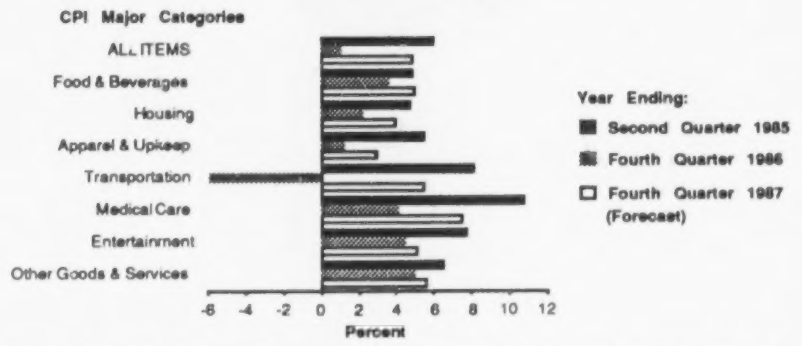
COMPARISON AREAS

The fourth quarter inflation rate in the Phoenix metropolitan area was less than the national average in every major category except entertainment (see Table 3).

Compared to one year earlier, the Phoenix inflation rate was comparable to the national rate in most categories. Exceptions included medical care, for which the local rate was lower, and entertainment, for which the Valley's rate was slightly higher.

The Phoenix area's annual inflation rate was bracketed by those in the nearby, comparably sized, metropolitan areas of Denver and San Diego. Only in the medical care category was the Valley's rate much different (lower) than in San Diego and Denver.

FIGURE I
ANNUAL INFLATION RATE
Metropolitan Phoenix



Source: Center for Business Research, College of Business, Arizona State University, in co-sponsorship with Valley National Bank.

OUTLOOK

The inflation outlook scarcely has changed during the last six months. The fourth quarter rate was almost exactly as predicted, except that gasoline prices continued to fall; stable prices had been expected. These lower gasoline prices alone reduced the quarterly inflation rate by 0.2 percentage points.

A gradual acceleration in the inflation rate remains likely, with a year-over-year rate near 5 percent by the end of 1987. Starting from such a low base (an annual rate of 1.1 percent at the end of 1986), however, the annual average increase during 1987 should be just 3.5 percent.

At the end of 1986, each major category registered an inflation rate of 5 percent or less, lower in all cases than the peak rates reached during early 1985 (see Figure I). The transportation and medical care components experienced the sharpest decelerations. Higher 1987 inflation is foreseen for each category, with the fastest acceleration probably to occur in transportation costs.

While gasoline prices are not predicted to shoot up during 1987, a swing from the 32 percent decrease during 1986 to just a 5 percent rise during 1987 would add two percentage points to the overall inflation rate. Recent action by OPEC, which forced up the price of crude petroleum, is the first tangible sign of higher consumer prices.

At a 4 percent annual rate of inflation, prices would double in 18 years. This rate still would represent considerable improvement over the inflation of the 1970s and early 1980s.

– Tom R. Rex
Research Manager

New Directors Named

Timothy D. Hogan, professor of economics and research associate in the Center for Business Research, has been appointed acting director of the Center. He assumed the position January 1, the date former Center director Lee R. McPheters, professor of economics, became acting director of the new Economic Outlook Center.

The latter Center is now the forecasting unit of the College of Business. It will serve the public by providing economic forecasts and related programs. Center activities will complement the research program of the Center for Business Research, offering research opportunities for students and faculty.

Under an agreement with Robert J. Eggert, Sr., of Sedona, Ariz., creator and editor of *Blue Chip Economic Indicators*, the Economic Outlook Center will assume publication of *Arizona Blue Chip*, a monthly newsletter on the Arizona economy. Other services the new Center will offer include consensus forecasts for the eight Western states, detailed Arizona forecasts, and a seminar series.

For more information on the Economic Outlook Center, call (602) 965-3961.

FIGURE I
METROPOLITAN PHOENIX AND U.S.
CONSUMER PRICE INDEXES
Annual Percent Changes

Source: Center for Business Research, College of Business, Arizona State University, in co-sponsorship with Valley National Bank.

TABLE 1
METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Annual Average, Selected Items

Expenditure Category	*1986 Relative Importance*[1]	*1986 Index (1977 = 100)*	Percent Change *1986*	*1985*	*1984*
ALL ITEMS	100.0%	192.9	1.3	5.0	5.8
Food and Beverages	18.7	179.0	4.2	4.3	3.5
Food	17.5	179.3	4.0	4.3	3.6
Food at Home	11.3	176.8	4.1	4.1	3.1
Cereal and Bakery Products	1.5	196.7	5.8	7.6	6.0
Meats, Poultry, Fish, and Eggs	3.3	162.1	2.5	1.1	1.3
Dairy Products	1.5	164.3	2.7	3.3	1.3
Fruits and Vegetables	1.9	188.1	1.7	6.3	5.6
Other Food at Home	3.1	170.3	6.8	4.5	3.1
Food Away from Home	6.1	181.2	3.8	4.8	4.4
Housing	39.5	202.8	2.2	4.5	4.1
Shelter	25.8	220.0	3.5	5.2	4.2
Renters' Costs	8.5	118.1[2]	2.8	5.9	NA
Homeowners' Costs	16.5	111.0[2]	3.8	4.3	NA
Fuel and Other Utilities	6.4	169.6	-2.0	1.8	7.4
Gas (piped) and Electricity	4.0	184.2	-3.7	1.6	6.2
Household Furnishings/Operations	7.2	153.5	1.4	4.4	1.5
Apparel and Upkeep	4.8	148.1	1.5	3.8	3.8
Transportation	21.2	177.5	-5.6	5.4	7.3
Private Transportation	19.6	174.3	-5.7	5.5	7.1
New and Used Cars	7.3	192.3	-1.2	4.2	13.4
Motor Fuels	5.5	148.8	-25.1	3.0	1.7
Public Transportation	1.6	228.8	-4.7	2.7	9.7
Medical Care	6.9	269.0	5.7	10.0	19.3
Entertainment	4.6	198.1	6.8	10.0	5.8
Other Goods and Services	4.3	179.2	4.6	5.4	6.4

[1] Expressed as a percent of all items. The relative importance of the seven major categories sums to 100.0 percent. Only selected detail items are shown; thus, the relative importance of these items will not sum to that of the major categories.

[2] Second quarter 1983 = 100

NA = Not Available

Source: Center for Business Research, College of Business, Arizona State University; in co-sponsorship with Valley National Bank.

equal to that of the two next-largest categories combined (transportation; food and beverages). Its index advanced less during 1986 than in any year except 1983.

Shelter costs rose modestly as apartment rents posted their smallest gain of the 1980s. The index for household furnishings and operations registered the smallest gain on record, while fuel and utility costs declined for the first time. Electricity rates were flat, and piped gas rates fell.

Transportation

In addition to gasoline prices, several other components of this category declined during 1986. Used car prices fell for the first time since 1979, and public transportation costs dropped for the first time ever. Lower finance charges and less expensive vehicle maintenance and repair contributed to the decline, offsetting a 20 percent increase in vehicle insurance premiums.

Medical Care

Health care inflation slowed to 5.7 percent, the slowest pace on record. In six of the seven prior years, the medical care index climbed at double-digit rates. The improvement in 1986 resulted primarily from inflation in health insurance premiums nearly disappearing.

Other Categories

Entertainment price increases slowed from the 1985 pace but remained the largest of the seven major categories. Gains in apparel and upkeep prices were less than in 1984 and 1985. The same was true in the other goods and services category.

COMPARISON AREAS

The increase during the 1980s in the Metropolitan Phoenix CPI has been nearly identical to the gain in the national CPI. A bigger decline in transportation costs and a smaller increase in medical care costs caused the 1986 inflation rate in Phoenix to be slightly less than the national rate (see Table 2).

The overall inflation rate for the Phoenix area was comparable to that for the Denver area, though the rates of increase by category varied substantially. San Diego's inflation rate was higher, mostly because of a more rapid rise in housing costs.

1986 FORECAST ACCURACY

Last year at this time, nearly all forecasts of 1986 national inflation exceeded 2.5 percent. In large part due to the unexpected collapse of oil prices, inflation slowed to only 1.9 percent.

The Center's forecast of the metropolitan Phoenix inflation rate was far too high. While the greatest error

December Purchasing Indicators Register Slim Gains

The Arizona economy continued its upward movement in December, but it was hardly a bullish performance. Price hikes continued to be moderate; inventory levels remained static; new order receipts were up, but at a rate well under the earlier months of 1986; production increased, but at the smallest rate since summer; and employment fell, for the second month in a row. The economy finished its fourth year of expansion with only slim increases.

As it moves into its fifth year of expansion, the economy's growth curve has flattened, and there is little evidence that the expansion will become more robust in 1987. Prices may increase at a faster rate, since they are unlikely to enjoy downward pressure from anything like the energy price windfall experienced in 1986. While the falling dollar should begin to stimulate exports and reduce imports, the statistical evidence does not show that happening yet. Without such an improvement, growth could stall by early summer. The effects of the new tax bill still are uncertain; if it results in a step-up of consumer spending, more upward thrust could develop. The anticipated capital expenditures also would provide a good boost to the economy. In short, continuation of the moderate growth of the past year is likely in 1987.

Table 1 presents the results of the December survey of Arizona purchasing managers. Analysis of these results follows.

PRICES

Prices paid for purchased items increased at the same rate as in November. The increase rate for each month of the second half of the year was consistently higher than during the first half. While the Arizona economy continues to enjoy a relatively modest inflation rate, it has stepped up from that experienced during 1985. However, these modest increases are not likely to cause any major problems.

DELIVERY TIME

Delivery time on shipments from vendors stretched at the same rate as in the past three months, showing that vendor order books remain healthy.

INVENTORY LEVELS

Inventory levels of purchased materials were unchanged, following a decrease in November. Over the year, inventory levels have held almost steady, with an equal number of months of additions and drops. If the Arizona economy should start to grow at a greater pace during first quarter 1987, needed additions to inventory could provide a real kick to an upswing.

NEW ORDERS

New orders received by Arizona firms grew in December at a greater rate than November's lackluster performance. The December increase still was lower than in all but two other months of 1986, with a noticeable slowing in the last half of the year.

PRODUCTION

Production advanced, but at a smaller rate than in November and at the lowest rate since June. The relatively small production gains are in line with the modest new order increases.

TABLE 1
DECEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (December compared to November)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	24	72	4
Delivery time from vendors	31	56	13
Purchased materials inventory level	29	42	29
New orders received	35	40	25
Production	33	41	26
Employment	14	68	18
Purchases	41	32	27

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

TABLE 2
ANTICIPATED EXPENDITURES FOR NEW PLANT AND EQUIPMENT

	Percent of Purchasing Managers Indicating Each Response		
	Higher	*Same*	*Lower*
1987 compared to 1986	53	34	13
1986 compared to 1985	48	33	19
1985 compared to 1984	53	28	19
1984 compared to 1983	53	31	16
1983 compared to 1982	27	26	47
1982 compared to 1981	40	19	41
1981 compared to 1980	49	27	24

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Arizona Purchasing Survey

Now in its 25th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

EMPLOYMENT

Employment declined slightly again in December, for the second consecutive month. This indicator has decreased slightly in three of the past four months, as the growth plateau continues.

PURCHASES

Purchases of materials and supplies went up in December at a somewhat greater rate than in November.

CAPITAL EXPENDITURE PLANS

Each December, survey respondents are asked a special question concerning their *anticipated* expenditures for new plant and equipment the following year (Table 2). The responses indicate that expenditures in 1987 will be substantially higher than in 1986, a year of consistent, although moderate, expansion. The planned expenditure level for 1987 is the highest of the past four years. Evidently, Arizona firms feel that the upward economic movement will continue and intensify in the new year and that additional productive capacity will be needed. If this capital investment is actually realized, it will be a major factor in bringing new life to the fifth year of expansion.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

Arizona Leading Index Unchanged Again in November

For the second time in three months, the Arizona Index of Leading Economic Indicators remained constant. Following a slight upward revision to the October index, the November index stayed at a record high 110.0 (1977 = 100).

Even with this flattening, growth of the index continued to be more vigorous than during 1984-85, when declines were common. Between November 1985 and November 1986, the index advanced 3.7 percent, the largest 12-month change since early 1984.

One-half of the index components rose in November, led by the second successive sizable gain in sensitive materials prices. Despite these increases, the index for this component remained below its April 1983 cyclical peak, which was lower than every other cyclical high since the leading index began in 1970. Thus, sharply higher inflation should not be interpreted from the growth of this component. Rather, it indicates a return to the 4 percent inflation rate experienced between 1982 and early 1986.

Other upward influences on the leading index included the 10th consecutive increase in national money supply (M2), though a relatively small gain, and a decline in the number of first-time unemployment insurance claims.

Offsetting these factors, residential building permits fell substantially for the second consecutive month. In addition, net change in the five components derived from a survey of Arizona purchasing managers was negative, wiping out a positive change in October.

These purchasing-survey components continued to fluctuate with little trend, though they were slightly higher than in early 1985, after they had retreated through most of 1984. The new orders component, however, fell in November to its lowest level since the end of the 1982 recession. In December, seasonally adjusted, these components were unchanged, with gains in inventory levels and new orders offset by declines in the other components.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution†			
	Aug.	*Sept.*	*Oct.*	*Nov.*
Delivery Time*	-.02	-.02	.07	.03
Inventory Levels*	.04	-.04	.06	-.14
New Orders*	-.04	.09	-.05	-.17
Production*	.04	.00	.01	.03
Employment*	.00	-.11	.07	-.01
Residential Building Permits	-.07	.16	-.34	-.16
Unemployment Insurance Claims	.12	-.12	-.05	.13
Average Workweek, Manufacturing	-.05	.00	.07r	-.07
Money Supply	.35	.12	.34	.13
Change in Sensitive Materials Prices	-.16	-.09	.16	.28
OVERALL INDEX	.21	.00	.34r	.06

r Revised

†The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Center for Business Research, College of Business, Arizona State University.

OUTLOOK

The chance of a recession beginning in Arizona before fall 1987 is less than 3 percent. Healthy economic growth should persist.

Nationally, the leading index rebounded in the fall from its sluggish summer level, a pattern of growth different from that in Arizona. The national index rose 6.4 percent between November 1985 and November 1986, suggesting real GNP growth in excess of 4 percent during 1987. However, following years of accurately predicting GNP growth (see August 1985 *Arizona Business*), the leading index was less reliable last year. It predicted approximately 4 percent real GNP growth during 1986, while the latest estimate is close to the 2.7 percent gain of 1985.

Thus, while an interpretation of much stronger economic growth for 1987 cannot be confidently made from the leading index, it is safe to conclude that an economic collapse is highly unlikely.

– Tom R. Rex
Research Manager

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	51.629	1.5	9.9	NA	NA
Arizona - 1982 Dollars	2nd Qtr.	48.084	1.8	9.7	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	4th Qtr.	193.6	-0.1	1.1	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Nov.	110.0	0.0	3.7	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	Oct.	329,379	1	0	3,460,000	-2
Pima County	Oct.	51,229	-1	-7	691,257	2
Balance of State	Oct.	102,609	55	82	589,360	0
Arizona	Oct.	483,217	9	8	4,740,617	-1
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Oct.	2,839	-32	-49	40,387	-15
Pima County	Oct.	1,427	75	23	10,601	-4
Balance of State	Oct.	983	-13	-21	10,311	-28
Arizona	Oct.	5,249	-14	-34	61,299	-16
HOME SALES						
Maricopa County - Number	Nov.	4,588	0	15	56,941	11
Maricopa County - Median Price	Nov.	79,000	0.3	4.9	78,000	5.6
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	3rd Qtr.	95	0.0	14.5	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Qtr.	106	-1.9	10.4	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	Dec.	9.2	-4.2	-16.4	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	3rd Qtr.	1,922	1.1	4.6	NA	NA
Arizona	3rd Qtr.	3,362	0.9	3.9	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	Nov.	2,427	-6.9	-3.6	33,041	0.8

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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John Kraft, Dean
Timothy D. Hogan, Acting Center Director
Mary Wery Garcia, Editor
James Dodson, Editorial Assistant
Sandra Palais, Computer Specialist

SRI Acquisitions
Congressional Info Service
4520 East-West Highway
Bethesda MD 20814